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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

PARKERVISION, INC., Plaintiff, v. INTEL CORPORATION, Defendant.	Case No. 6:20-cv-00108-ADA JURY TRIAL DEMANDED

PLAINTIFF PARKERVISION, INC.'S MOTIONS FOR SUMMARY JUDGMENT

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I. Introduction

Intel has not provided – and cannot provide – evidence sufficient to raise a genuine issue of material fact with respect to certain defenses relating to marking, validity, and infringement. In some cases, Intel does not even try. Thus, summary judgment on these issues is appropriate.

First, with respect to marking, Intel relies on dicta from the Federal Circuit's decision in *Artic Cat* and asserts that the bar for identifying unmarked products under 35 U.S.C. § 287 is "low." Though Intel's burden of production may be low, it is an evidentiary and factual burden nonetheless. And, the bar does not rest on the floor where Intel tries to put it.

In particular, Intel seeks to limit damages based on nothing more than *attorney speculation and conjecture*, not actual evidence. To properly assert a marking defense, however, Intel must come forward with some plausible, rational, and non-speculative support to show that products should have been marked but were not. Intel fails to do so. Indeed, Intel did not perform even the most cursory of investigations, nor does it provide any expert statement of any kind to indicate that a particular product practices any claim of any asserted patent. Instead, Intel attempts to meet its burden solely by relying on ParkerVision's statements from prior litigations. But these statements are irrelevant to the products Intel alleges should have been marked and/or have nothing to do with the patents-in-suit.

Based on the way Intel has approached its marking burden, a defendant could simply say "all patentee and licensee products in the industry should have been marked." That mere declaration, in Intel's view, would shift the burden to the patentee to undertake the enormous burden of proving that each and every product in the industry is not, in fact, covered by its patents. That is not the law. Because Intel has presented nothing more than speculative attorney theories regarding its assertion that certain products should have been marked, Intel has not met even the lowest of burdens.

Second, with respect to invalidity, Intel's expert *indisputably* fails to demonstrate the presence of certain claim elements. In one case, Intel's expert unilaterally *rewrites* a claim element and then analyzes the rewritten element. He fails to provide any opinion with regard to the claim element as written. In another case, Intel's expert flatly *admits* the absence of required elements in the prior art. In these cases, Intel cannot prove invalidity under 35 U.S.C.§§ 102 or 103.

Finally, with respect to infringement, tests performed by Intel's own expert prove that Intel meets key limitations in the '725, '736 and '673 patents. Intel should not be permitted to advance non-infringement arguments to a jury that are disproven by its own testing.

II. Legal Standard

Summary judgment is appropriate "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a); *Tolan v. Cotton*, 134 S. Ct. 1861, 1866 (2014). A material fact is one that is likely to reasonably affect the outcome of the case. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). An issue is not genuine if the trier of fact could not, after an examination of the record, rationally find for the non-moving party. *Matsushita Elec. Indus., Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986). As such, the burden of demonstrating that no genuine dispute of material fact exists lies with the party moving for summary judgment. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986).

Once presented, a court must view the movant's evidence and all factual inferences from such evidence in a light most favorable to the party opposing summary judgment. *Impossible Elecs. Techniques v. Wackenhut Protective Sys., Inc.*, 669 F.2d 1026, 1031 (5th Cir. 1982). Accordingly, the simple fact that the court believes that the non-moving party will be unsuccessful at trial is insufficient reason to grant summary judgment in favor of the

movant. *Jones v. Geophysical Co.*, 669 F.2d 280, 283 (5th Cir. 1982). However, "[w]hen opposing parties tell two different stories, but one of which is blatantly contradicted by the record, so that no reasonable jury could believe it, a court should not adopt that version of the facts for the purposes of ruling on a motion for summary judgment." *Scott v. Harris*, 550 U.S. 372, 380–81 (2007).

Once the court determines that the movant has presented sufficient evidence that no genuine dispute of material fact exists, the burden of production shifts to the party opposing summary judgment. *Matsushita*, 475 U.S. at 586. The non-moving party must demonstrate a genuinely disputed fact by citing to parts of materials in the record, such as affidavits, declarations, stipulations, admissions, interrogatory answers, or other materials; or by showing that the materials cited by the movant do not establish the absence of a genuine dispute. Fed. R. Civ. P. 56(c)(1)(A)–(B). "Conclusory allegations unsupported by concrete and particular facts will not prevent an award of summary judgment." *Duffy v. Leading Edge Prods.*, 44 F.3d 308, 312 (5th Cir. 1995).

III. Motion for partial summary judgment related to marking

Intel raises a marking defense. In doing so, Intel heavily relies on the fact that the bar for identifying unmarked products under 35 U.S.C. § 287 is "low." Ex. 1 at 49. But the bar does not rest on the floor, where Intel places it. As discussed below, Intel has not met its burden.

A. Marking related to Samsung devices

On July 13, 2016, Samsung became a ParkerVision licensee. Before that date, there was no obligation to mark any Samsung product. Intel asserts, however, that *after July 13, 2016*, Samsung was required to mark two Samsung phone devices with ParkerVision's '528 patent. No evidence supports this.

The claims of the patents-in-suit cover receiver chips. Intel, however, failed to investigate the chips used in any *2016 or later model year* Samsung phones. As such, Intel is unable to identify any specific chips found in any *2016 or later model-year* Samsung phone that could trigger a marking obligation, much less provide any analysis of how those particular chips might practice any claim of any ParkerVision patent. Indeed, there is *not a single witness or document* in this case that has any information regarding any specific chip in a *2016 or later model-year* Samsung phone or the chip configuration.

Instead of conducting even the most cursory analysis of chips in Samsung phones made or sold after July 2016, Intel relies only on ParkerVision statements regarding chips used in one *2014 model year* Galaxy S5 phone and two *2015 model year* Galaxy S6 phones. That prior versions of Samsung phones containing very specific chips were at issue in a prior litigation is simply irrelevant to whether any Samsung phones *after July 2016* (with altogether unidentified chips) practiced any claim of the asserted patents.

Intel should not be permitted to create a sideshow with attorney argument concerning other litigations, particularly where its expert in this case has failed to provide any analysis, opinion or statement of any kind regarding whether or not the chips in any Samsung phones sold/offered for sale after July 2016 practice a claim of ParkerVision's patents-in-suit.

1. Factual background

In December 2016, ParkerVision filed an ITC investigation against Samsung ("ITC case"). ParkerVision alleged infringement of several patents including U.S. Patent No. 9,118,528 ("the '528 patent"), which is one of the patents-in-suit in ParkerVision's litigation against Intel.[1]

[1] The ITC case did *not* involve any other patents-in-suit. The patents-in-suit in this case are U.S. Patent Nos. 6,580,902 (the "'902 patent"); 7,539,474 (the "'474 patent"); 8,588,725 (the "'725 patent"); the '528 patent; 9,246,736 (the "'736 patent) and 9,444,673 (the "'673 patent").

In the ITC complaint, ParkerVision alleged infringement by (1) a Qualcomm WTR1625L transceiver chip (found in a *2014 model-year* Samsung Galaxy S5), (2) a Shannon 928 chip (Samsung-made) (found in a *2015 model-year* Samsung Galaxy S6), and (3) a Qualcomm WTR3925 transceivers chip (found in a *2015 model-year* Samsung Galaxy S6 phone). *See Certain RF Capable Integrated Circuits and Products Containing the Same* (Inv. No. 337-TA-982); Exs. 2, 3 (claim charts).

Intel has not identified any ParkerVision statement that a chip used in a *2016 or later model year* Galaxy S5, S6 or any other Samsung device infringed any of the patents-in-suit.

Throughout the ITC investigation, Samsung maintained that it does not use ParkerVision's patents. [redacted]

Ex. 4 at 4.

2. Intel fails to identify any chips used in a Samsung phone sold/offered for sale after July 13, 2016

Intel has *no basis* to assert that any chip in *post-July 13, 2016* Samsung Galaxy S5 and S6 phones are covered by any claims of any patent-in-suit and, thus, Samsung phones needed to be marked.

Intel's *entire* marking defense regarding Samsung phones is based on ParkerVision's infringement allegations in the ITC complaint related to chips used in *2014* and *2015* model years of Samsung Galaxy S5 and S6. But these chips are *irrelevant* to supposed marking

obligations years later. The relevant chips to a marking analysis are those found in Samsung phones *post-July 13, 2016* – after the Samsung License. Intel did *nothing* to investigate this.

When a defendant believes that a patentee has failed to mark products that should have been marked pursuant to 35 U.S.C. § 287, the defendant bears the "initial burden of production" to plausibly identify specific products that should have been marked. *Arctic Cat Inc. v. Bombardier Rec. Prods.*, 876 F.3d 1350, 1367-68 (Fed. Cir. 2017). Though the Federal Circuit has not determined "the minimum showing needed to meet the initial burden of production," it has given guidance regarding what is required to shift the burden of proof to the patentee. *Id.* at 1368. In particular, the Court found that proffering the opinion of an independent expert that "review[ed] information regarding those models" and found that the products "practiced the Patents" is sufficient. *Id*. Intel did *nothing* here. It did no factual research, produced no documents, and offered no expert analysis of any kind regarding *post-July 13, 2016* chips.

Other than relying on ParkerVision's statements regarding chips in *2014* and *2015* model Galaxy S5 and S6 phones, Intel made *zero* effort to determine what chips are in Samsung phones *after July 13, 2016*. Intel did not perform even the most basic of investigations. Intel did *not* subpoena Samsung. Intel did *not* obtain a post July 13, 2016 Samsung S5 or S6 phone (with evidence that such phone was sold/offered for sale by Samsung after July 13, 2016) and show the chip inside of the phone. Intel's technical expert did *not* discuss any Samsung devices, any chips in any Samsung devices, let alone state that any chips practice a claim of a patent-in-suit. Indeed, the report of Intel's technical expert is completely silent on the marking issue.

ParkerVision's expert, Dr. Michael Steer, is the only technical expert in this case that provides any testimony regarding the chips in the Samsung Galaxy S5 and S6. Dr. Steer explained how chips in these phones can (and did) change from year to year and different chips

can be (and were) used in the same model. *See* Ex. 5 at ¶¶ 90, 98. Notably, the Qualcomm WTR1625L was used in a *2014* Galaxy S5 and the Qualcomm WTR3925 was used in a 2015 Galaxy S6; some *2015* Galaxy S6 models used the Shannon 928 and some used the Qualcomm WTR3925.

Dr. Steer also explained (1) how it is inappropriate for Intel to make assumptions about the chips used in post-July 13, 2016 Samsung phones, (2) that Intel would need to determine what chips are used in a device and when that device was available, and (3) in order to say a chip is covered by a claim, that Intel would then need to determine how the chip is actually configured/operates. *Id.* at ¶¶ 89-102.

At bottom, Intel's marking position is based solely on *attorney speculation and conjecture*, not actual evidence. There is not a single fact or expert witness (Intel, ParkerVision, or third party) who has testified (or can testify) as to the chips found in post-July 13, 2016 Samsung phones. There is not a single physical exhibit or document that shows the chips in a post-July 13, 2016 Samsung phone. And Intel's expert, Dr. Subramanian, has not provided any opinions in his expert reports regarding Samsungs devices, the chips in Samsung devices practicing any claims of the patents, or marking in general and, thus, cannot testify at trial about this issue.

Moreover, Intel's 30(b)(6) witness confirmed that she knew of no test that Intel performed on any Samsung product allegedly sold after July 13, 2016 to determine what chips were in those devices or if those devices practiced any licensed ParkerVision patent. Ex. 19 at 202:20-204:2.

At the summary judgment stage, evidence – not conjecture – is required. For the foregoing reasons, partial summary judgment of no failure to mark Samsung products is warranted.[2]

B. Marking related to early ParkerVision Products

ParkerVision sold products known as the Signal Max WLAN1500, Signal Max USB1500, WLAN3000, Signal Max WR1500, and WR3000 ("ParkerVision Products"). Intel asserts that ParkerVision was required to, but did not, mark the ParkerVision Products.

No evidence supports this.

The ParkerVision Products stopped being made/sold/offered for sale in 2005. Ex. 7 at ¶5; Ex. 1 at 14, 17 (alleging products sold "between 2003-05"). The '902 patent was the only patent-in-suit that had issued by this time. As such, there was no marking requirement with regard to any of the patents-in-suit other than the '902 patent.

The '902 patent was marked on the boxes and/or labels of *all* ParkerVision Products. Ex. 6 at 21-22; Ex. 7 at ¶3; *see also* Ex. 8; Ex. 9; Ex. 10; Ex. 11; Ex. 12. Moreover, once ParkerVision marked the '902 patent on its products/boxes, ParkerVision continuously and consistently marked the '902 patent on its products/boxes. Ex. 7 at ¶4

For the foregoing reasons, partial summary judgment of no failure to mark ParkerVision Products is warranted.

[2] Intel does not assert that any other patent-in-suit is practiced by any Samsung product, nor can it. In the ITC case, ParkerVision only made statements about certain claims of the '528 patent and the other patents-in-suit have claim elements not found in the claims of the '528 patent. Intel has not advanced any evidence whatsoever with respect to the other patents-in-suit.

C. Marking related to ParkerVision's PV5870 chip

ParkerVision sold a chip known as the PV5870. Intel asserts that ParkerVision was required to, but did not, mark the PV5870 chip or circuit boards containing the PV5870 chip with the patents-in-suit.

1. '736 and '673 patents

Intel's *entire* marking defense with respect to the '736 and '673 patent is based on a claim chart ParkerVision submitted in the ITC case (related to domestic industry) mapping the PV5870 to *different patents.* ('528 patent and U.S. Patent No. 6,879,817 ("'817 patent"). Ex. 1 at 24-30.)

Based on this mapping of the '528 and '817 patents, Intel asserts that the PV5870 also practices the '736 and '673 patent claims. Id. The '736 and '673 patents, however, have claim elements not found in the claims of the '528 and '817 patents. And contrary to Intel's bare attorney argument, Dr. Steer identified these differences. *See* Ex. 5 at ¶¶ 67-68. Tellingly, Intel's technical expert provides no opinion in his expert report identifying claims that the PV5870 practices (with respect to any patent) and does not make any attempt to map the actual claims of the '736 and '673 to the PV5870 product. Thus, there are no *facts* to put in front of the jury demonstrating that the PV5870 must be marked with these patents.

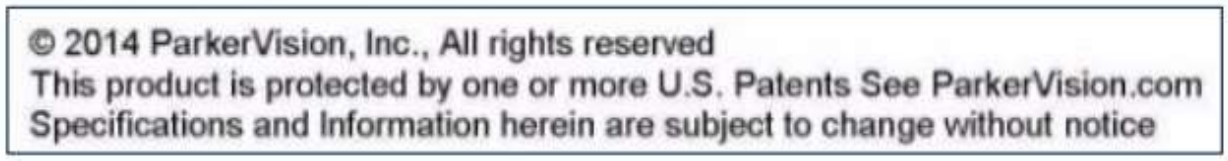
For the foregoing reasons, partial summary judgment of no failure to mark the PV5870 with the '736 and '673 patents is warranted.

2. '902, '474, '725, and '528 patents

At least since February 17, 2015, the webpage on ParkerVision's website dedicated to the PV5870 chip specifically listed the '902, '474, and '725 patents. Ex. 7 at ¶7; *see* Ex. 18. After at least this date, the '902, '474, and '725 patents were continuously and consistently marked on this page. Ex. 7 at ¶7. And at least since March 27, 2016, the webpage on ParkerVision's website

dedicated to the PV5870 chip specifically listed the '528 patent. Ex. 7 at ¶8. After at least this date, the '528 patent was continuously and consistently marked on this page. Ex. 7 at ¶8. When ParkerVision sold a PV5870 chip/board, a user manual/specification sheet was always included with the PV5870 chip/board so that the customer knew how to connect the PV5870 chip/board to external components. Ex. 7 at ¶9.

Since at least December 2014, all user manuals/specification sheets that would be included with any ParkerVision sale of the PV5870 contained a notice identifying that the product was "protected by one or more U.S. Patents" and identifying ParkerVision's website (ParkerVision.com) e.g., as shown below. Ex. 7 at ¶¶10-11.



See e.g., Ex. 13; Ex. 14; Ex. 15.

The packaging of the PV5870 chips/boards also included the same marking. Ex. 16; Ex. 17. For the foregoing reasons, partial summary judgment rejecting defenses based on purported failure to mark the PV5870 with the '528 patent after March 27, 2016 and the purported failure to mark the PV5870 with the '902, '474, and '725 patents after February 17, 2015 is warranted.

D. Marking related to ParkerVision's Milo products

Similarly, Intel errantly asserts that ParkerVision was required to mark a wireless product that it sold known as Milo. Intel makes this assertion based solely on the fact that all Milo products contained a Realtek RTL8811AU transceiver chip (Ex. 7 at ¶6) and ParkerVision has accused *different chips made by Realtek* of infringing certain patents. Ex. 6 at 32.

But ParkerVision *never* accused the RTL8811AU of infringement and Intel cannot simply assume that every Realtek chip practices ParkerVision's patents-in-suit.

More specifically, in cases against Hisense and Buffalo, ParkerVision accused the Realtek RTL8812BU, RTL8192BU or RTL8188ER of infringement. As Dr. Steer explained, however, these chips have different functionalities and no conclusions can be drawn about the similarities or differences between the configuration/operation of these chips and the Realtek RTL8811AU. Ex. 5 at ¶¶ 74, 75, 81, 82. Dr. Steer also explained that one would need schematics and an understanding of component values for these chips in order to make a determination as to whether the RTL8811AU is configured/operated in the same way as the RTL8812BU, RTL8192BU or RTL8188ER. Id. at ¶¶ 76, 83. On the other hand, Intel's expert, Dr. Subramanian, has not provided any opinions regarding any Realtek chips and, thus, cannot testify at trial about this issue. In the absence whatsoever of any technical testimony or any documentary evidence indicating that the Realtek RTL8811AU in Milo products practiced any particular claim of an asserted patent, Intel cannot meet its evidentiary burden.

Realizing this complete lapse in evidence, Intel seeks to conjure an issue concerning the RTL8811AU chip where none exists. Intel asserts that ParkerVision *generally* accused different Buffalo AirStation products of infringement, and that because one AirStation product may include the Realtek RTL8811AU, ParkerVision's patents must cover the RTL8811AU. Ex. 1 at ¶¶ 52-53. But ParkerVision's complaint against Buffalo (which specifically identified the accused chips), however, never accused the RTL8811AU (in any Buffalo product) of infringement. Nor could it, because ParkerVision did not know how that RTL8811AU chip was configured or operated.[3] Moreover, for ParkerVision to accuse the AirStation product with an

[3] Intel relies heavily on the deposition testimony of Jeff Parker, ParkerVision's CEO. Based only on his reading of the Complaint that was put in front of him at his deposition, Mr. Parker (who is not a lawyer) stated that all AirStation products were being accused. Ex. 20 at 597:8-598:1, 613:17-24. Outside of the language in the complaint, Mr. Parker had no independent knowledge

RTL8811AU chip of infringement, that product would need to be made, used, sold or offered for sale in the United States. But Intel failed to perform any investigation to show that any of these activities occurred in the United States such that ParkerVision could have brought suit against this specific product and chip.

For the foregoing reasons, partial summary judgment of no failure to mark Milo products is warranted.

IV. Motion for partial summary judgment of no validity

A. Validity of asserted claims of the '736 patent

Claims 1 and 27 of the '736 patent recites that a "*first* switch" is off outside the second sampling aperture.

> a second switch coupled to a second control signal which comprises a second sampling aperture with a specified frequency, wherein the second switch is on during the second sampling aperture and wherein the first switch is off outside the second sampling aperture;

Instead of addressing whether the "first" switch is off outside of the second sampling aperture, as shown below, Intel's expert, Dr. Subramanian, unilaterally rewrites the language of the claim from "first" switch to "second" switch through his invalidity report.

> [1d] a second switch coupled to a second control signal which comprises a second sampling aperture with a specified frequency, wherein the second switch is on during the second sampling aperture and wherein the second switch is off outside the second sampling aperture;

Ex. 22 at ¶291.

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of what chips were accused of infringement. Id. at 590:6-11, 597:8-13. Notably, Mr. Parker never stated that the RTL8811AU was being accused of infringement.

(4)	**[1d] "a second switch coupled to a second control signal which comprises a second sampling aperture with a specified frequency, wherein the second switch is on during the second sampling aperture and wherein the second switch is off outside the second sampling aperture;"**

Id. at pp. 291, 441, 564, 722-23, 853, 983, 1135.

> 923. Accordingly, under ParkerVision's infringement theory, Schultes in view of the knowledge of a POSITA teaches the claimed "second switch coupled to a second control signal which comprises a second sampling aperture with a specified frequency, wherein the second switch is on during the second sampling aperture and wherein the second switch is off outside the second sampling aperture."

Id at ¶ 922; *see also id*. at ¶ 925, 2477, 2479, 2901. Dr. Subramanian then analyzes the claims in view of his *re-written* version of the claims. Because Dr. Subramanian's analysis is focused on the "second" switch, he *never* provides any opinions that the "first" switch (the language of the claim) is off outside the second sampling aperture. Thus, Dr. Subramanian fails to provide any opinion regarding the actual requirement of the claims.

For the foregoing reasons, partial summary judgment that claims 1 and 12 of the '736 patent are not invalid should be granted.

B. Validity of asserted claims reciting an "energy transfer system"

Other than claim 5 of the '673 patent, all asserted claims recite a "storage" element/device/module. The Court construed "storage" element/device/module to mean an "[element/device/module] of an *energy transfer system* that stores non-negligible amounts of energy from an input electromagnetic signal." Ex. 21 at 4-5. As such, the asserted claims (other than claim 5 of the '673 patent), require an "energy transfer system."

Intel's expert, Dr. Subramanian, ignores this requirement and does not even attempt to provide proof that this element is met in any reference other than Tayloe. Instead, for example,

Dr. Subramanian states "ParkerVision's infringement contentions do not identify any particular characteristics required for an element 'of an energy transfer system . . . ." *See, e.g.*, Ex. 22 Subramanian Report at ¶ 492; *see also id.* at ¶¶ 1280, 1695. Dr. Subramanian then makes unsupported conclusory assertions regarding capacitors of the Accused Product and equates those to the capacitors of the prior art. *Id*.

Dr. Subramanian blaming ParkerVision is pretense to avoid the real issue – that he had no way to address this claim requirement. Indeed, contrary to Dr. Subramanian's assertion, ParkerVision's infringement contention specifically identified characteristics of an element of an energy transfer system – transferring energy to the low impedance load circuitry, filling in gaps between discrete signal portions being output from the switch, and discharging stored energy to form a lower frequency/down-converted signal. *See, e.g.*, Ex. 23 at 24; Ex. 24 at 20-21. Dr. Subramanian was well aware of this when he prepared his invalidity report, yet he did not address all of these characteristics of an energy transfer system (even for Tayloe) because these characteristics are not found in the prior art. *See, e.g.*, Ex. 22 at ¶¶ 315, 324-326, 881.

For the foregoing reasons, partial summary judgment should be granted that the following claims are not invalid: claim 5 of the '902 patent; claim 6 of the '474 patent; claims 6 and 16 of the '725 patent; claims 5 and 9 of the '528 patent; claims 1 and 27 of the '736 patent; and claim 17 of the '673 patent.

C. Validity of asserted claims where Intel relies on ParkerVision's infringement theories

Intel asserts invalidity based on Razavi, Schultes, Traylor, BBA2, RF100, PMB 2407, and Tayloe.

1. Claims reciting "outputs a down-converted . . . baseband signal portion"

Claims 5 and 9 of the '528 patent and claims 1 and 27 of the '736 patent require that an energy storage element "*outputs* a down-converted . . . baseband signal *portion.*"

Not only does Dr. Subramanian fail to explain *how* the prior art "*outputs*" a down-converted "baseband signal *portion,*" but with regard to Razavi, Traylor, BBA2 and RF100, Dr. Subramanian *admits* that the element is *not* present in these references. Ex. 7 at ¶ 494[4] (with regard to Razavi, he states "The capacitor does ***not*** 'output[] a down-converted in-phase baseband signal portion of said modulated carrier signal" as required by the claim, ..."); *id.* at ¶ 1282 (same admission for Traylor); *id.* at ¶ 1698 (same admission for BBA2); *id.* at ¶ 2067 (same admission for RF100).

Moreover, for these references as well as Schultes and PMB 2407, Dr. Subramanian merely states that, "under ParkerVision's *infringement* theory," this claim element is present. *See e.g., id.* at ¶ 494. ("*Under ParkerVision's infringement theory*, therefore, the capacitor . . . satisfies limitation [1c]."); *id.* at ¶ 907 ("Accordingly, since the Schultes' low pass filter receives the down-converted in-phase baseband signal portion from the switching transistor of the I-mixer, filters the down-converted signal, and outputs the filtered signal, the capacitor constitutes the claimed 'first energy storage element . . . that outputs a down-converted in-phase baseband signal portion' of the carrier signal *under ParkerVision's infringement theory*."); *id.* at ¶ 2462 ("Accordingly, since PMB 2407's baseband filter receives the down-converted in-phase baseband signal portion from the switching transistor of the I-mixer, filters the down-converted signal, and outputs the filtered signal, the capacitor constitutes the claimed 'first energy storage element … that outputs a down-converted in-phase baseband signal portion' of the carrier signal

[4] All emphasis has been added unless otherwise noted.

under ParkerVision's infringement theory."); *id.* at ¶ 2464 (relying on the same arguments as in Razavi).[5]

He performs no other analysis. But this is not a proper analysis under the law–which requires that the asserted claims (rather than infringement contentions or accused products) be compared to the prior art as understood by a POSITA. Indeed, Dr. Subramanian *disagrees* with ParkerVision's infringement theory and, thus, should not be applying it to prove invalidity. *Genband US LLC v. Metaswitch Networks Corp.*, Case No. 2:14- cv-00033, 2015 U.S. Dist. LEXIS 17646, at *7-8 (E.D. Tex. Sept. 30, 2015) ("[I]f an expert disagrees with the principles and methods embodied in an adverse party's infringement theory, that expert is not permitted under Rule 702 to apply the adverse party's infringement theory to affirmatively conclude that the patent is invalid."); *see also Metaswitch Networks Ltd. v. Genband US LLC*, Case No. 2:14-cv-744-JRG-RSP, 2016 U.S. Dist. LEXIS 28289, at *18 (E.D. Tex. Mar. 7, 2016) ("This holding is premised on the fact that a party alleging invalidity must meet an affirmative burden of proof to show that the patent is invalid. A party cannot meet this burden by offering expert testimony that relies on an infringement analysis the expert disagrees with.").

According to Dr. Steer, a POSITA understands that these references do not disclose this claim element. See Ex. 5 at ¶¶ 600, 857, 1062, 1338, 1574, 1828. Because, for Razavi, Schultes, Traylor, BBA2, RF100, and PMB 2407, Dr. Subramanian merely asserts that this element is

[5] As more fully discussed in ParkerVision's Daubert motion, because Dr. Subramanian disagrees with ParkerVision's theory of infringement, he cannot rely on ParkerVision's infringement theory to support invalidity. Absent that legally insufficient theory, there is no dispute of material fact that a POSITA would understand that Razavi, Schultes, Traylor, BBA2, RF100, and PMB 2407 do not disclose the element "outputs a down-converted . . . baseband signal portion."

satisfied *under ParkerVision's infringement theory,* there are no disputed material fact as to how a POSITA would view the references and summary judgment is appropriate.

With regard to Tayloe, Dr. Subramanian makes an unsupported conclusory assertion that a Tayloe capacitor "outputs" a down-converted "baseband signal *portion*." *Id*. at ¶¶ 2847, 2883 (without explaining ***how***, stating that "Tayloe discloses a first energy storage element (e.g., capacitor 72 (brown)) that is coupled to the first switch (gray) and that outputs a down-converted in-phase baseband signal portion (via the 0 degree output (green)) of the modulated carrier signal (e.g., input signal f1 (purple))."). Dr. Subramanian's conclusory assertion "cannot raise triable issues of material fact on summary judgment." *Regents of Univ. of Minn. v. AGA Med. Corp.*, 717 F.3d 929, 941 (Fed. Cir. 2013) (quoting *Sitrick v. Dreamworks, LLC,* 516 F.3d 993, 1001 (Fed. Cir. 2008); *see also MobileMedia Ideas LLC v. Apple Inc.,* 780 F.3d 1159, 1172 (Fed. Cir. 2015) ("Conclusory statements by an expert . . . are insufficient to sustain a jury's verdict.")

According to Dr. Steer, a POSITA understands that Tayloe does not disclose this claim element. See Ex. 5 at ¶ 2035. Thus, there is no disputed material fact as to how a POSITA would view Tayloe.

For the foregoing reasons, partial summary judgment of no invalidity should be granted as to claims 5 and 9 of the '528 patent as well as claims 1 and 27 of the '736 patent are valid in view of Razavi, Schultes, Traylor, BBA2, RF100, PMB 2407, and Tayloe as well as any combinations including these references.

2. Claims reciting "storage" element/module/device

All of asserted claims (other than claim 5 of the '673 patent) require a "storage" element/module/device. Dr. Subramanian, however, does *not* believe that this element is found in any prior art references *as would be understood by a POSITA*. Because he fails to argue that

these elements, as they would be understood by a POSITA, are found in the prior art, his analysis is legally insufficient.

In particular, Dr. Subramanian asserts only that "under Parkervision's *infringement* theory," this claim element is present. This, however, is all that Dr. Subramanian opines on. *See e.g.*, Ex. 22 at ¶¶ 492, 493, 584, 643, 736, 764, 806 (Razavi); *id.* at ¶¶ 906, 909, 1003-1005, 1048, 1150, 1178, 1218 (Schultes); *id.* at ¶¶ 1280, 1281, 1410, 1455, 1458, 1549, 1577, 1617 (Traylor); *id.* at ¶¶ 1695, 1696, 1794, 1838, 1933, 1961, 1999 (BBA2); *id.* at ¶¶ 2066, 2068, 2069, 2157, 2158, 2205, 2297, 2325, 2365 (RF100); *id.* at ¶¶ 2461, 2462, 2557, 2603, 2702, 2730, 2769 (PMB 2407); *id.* at ¶¶ 2857, 2858, 2974, 3023, 3119, 3147, 3189 (Tayloe).[6] Indeed, Dr. Subramanian *disagrees* with ParkerVision's infringement theory and, thus, should not be applying it to prove invalidity.

According to Dr. Steer, a POSITA understands that these references do not disclose this claim element. *See* Ex. 5 at ¶¶599, 838, 1043, 1313, 1566, 1809, 2015. Because, for Razavi, Schultes, Traylor, BBA2, RF100, PMB 2407 and Tayloe, Dr. Subramanian merely asserts that this element is satisfied *under ParkerVision's infringement theory,* there are no disputed material fact as to how a POSITA would view the references and summary judgment is appropriate.

For the foregoing reasons, partial summary judgment should be granted that claim 5 of the '902 patent; claim 6 of the '474 patent; claims 6 and 16 of the '725 patent; claims 5 and 9 of the '528 patent; claims 1 and 27 of the '736 patent; and claim 17 of the '673 patent are not invalid in view of Razavi, Schultes, Traylor, BBA2, RF100, PMB 2407, and Tayloe as well as any combinations including these references.

[6] For example, Dr. Subramanian *solely* relies on a contorted reading of ParkerVision's infringement theories in its final infringement contentions as the basis for his assertion that prior art capacitors store "non-negligible" amounts of energy.

3. Claims reciting "sample," "sampling" or "sampling aperture"

All of the asserted claims require "sample," "sampling" or "sampling aperture." Dr. Subramanian, however, does *not* believe that Razavi, Schultes, BBA2, RF100, or PMB 2407 "sample," perform "sampling" or have "sampling apertures" *as would be understood by a POSITA*. Because he fails to argue that these elements, as they would be understood by a POSITA, are found in the prior art, his analysis is legally insufficient.

Notably, with regard to Razavi, Schultes, BBA2, RF100, and PMB 2407, Dr. Subramanian *admits* that the element is not present in these references. See Ex. 22 at ¶¶ 487, 1063 (Razavi); *id.* at ¶ 881 (Schultes); *id.* at ¶ 1688 (BBA2); *id.* at ¶ 2058 (RF100); *id.* at ¶ 2444 (PMB 2407). *id.* at ¶ 494. As with the elements discussed above in Sections II.C.1 and 2 above, Dr. Subramanian merely asserts that, "under ParkerVision's *infringement* theory" these claim elements are present. *See id.* at ¶¶ 487, 1063 (Razavi); *id.* at ¶ 881 (Schultes); *id.* at ¶ 1688 (BBA2); *id.* at ¶ 2058 (RF100); *id.* at ¶ 2444 (PMB 2407). Because Dr. Subramanian *disagrees* with ParkerVision's infringement theory, he cannot use it to prove invalidity.

According to Dr. Steer, a POSITA understands that these references do not disclose "sample," "sampling" or "sampling aperture." *See, e.g.*, Ex. 5 at ¶¶ 574, 580, 812, 822, 1299, 1301, 1554, 1556, 1787, 1789. Because, for Razavi, Schultes, BBA2, RF100, and PMB 2407, Dr. Subramanian merely asserts that this element is satisfied *under ParkerVision's infringement theory,* there are no disputed material fact as to how a POSITA would view the references and summary judgment is appropriate.

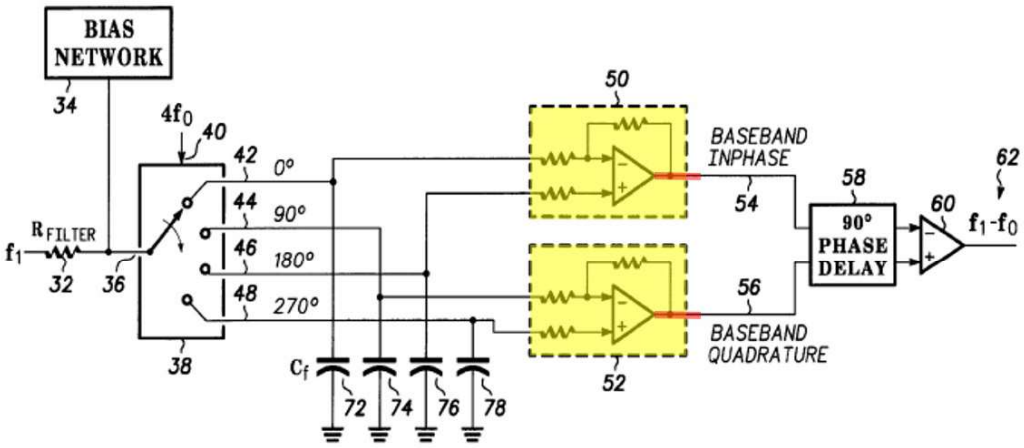
For the foregoing reasons, partial summary judgment should be granted that claim 5 of the '902 patent; claim 6 of the '474 patent; claims 6 and 16 of the '725 patent; claims 5 and 9 of the '528 patent; claims 1 and 27 of the '736 patent; and claims 5 and 17 of the '673 patent are

not invalid in view of Razavi, Schultes, BBA2, RF100, and PMB 2407 as well as any combinations including these references.

D. Validity of asserted claims reciting a differential amplifier outputting a differential signal

Claims 5 and 9 of the '528 patent as well as claims 1 and 27 of the '736 patent require a "differential amplifier circuit" that "*outputs*" a down-converted "*differential*" baseband signal. Tayloe and Palmer disclose outputting a single-ended signal, *not* a differential signal.

As shown below, Tayloe discloses summing amplifiers 50, 52. Each amplifier has a single-ended output (one line coming out, shown in red) and, thus, each amplifier outputs a *single-ended* signal, not a *differential* signal as required by the claims.



30 FIG. 3

Tayloe Ex. 28 at Fig. 3. Dr. Subramanian admits this.

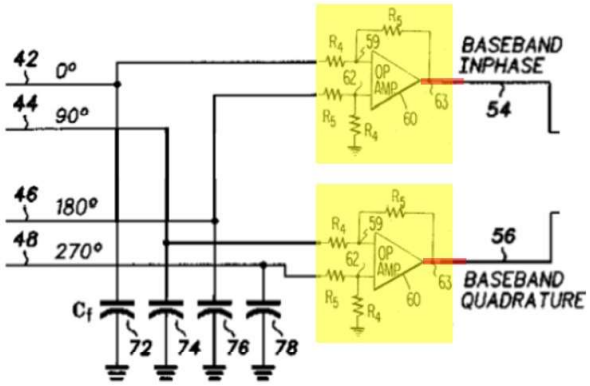
> Q Tayloe does not disclose a differential output. Correct?
>
> MR. ZUBLER: Objection. Ambiguous.
>
> A Yes, I agree with that with respect to the figure, because it only shows a single-ended output for the summing amplifier.

> Q Tayloe's summing amplifiers do not output a differential signal. Correct?
>
> A I agree that the output shown in Tayloe on the outputs of the summing amplifiers do not show a differential output.

> Q And does Tayloe disclose anywhere a differential output signal?
>
> A With respect to any of the amplifiers in Tayloe, no.

Ex. 25 (Subramanian 10/21/22 Tr.) at 613:14-614:3.

Alternatively, in order to demonstrate (1) energy store element, (2) energy storage element coupled to a low impedance load, and (3) and energy storing element discharges energy, as shown below, Dr. Subramanian replaces each of Tayloe's summing amplifiers 50, 52 with an op-amp circuit/amplifier of Palmer (shown below in yellow). *See, e.g.*, Ex. 22 at ¶¶ 2894, 2931, 2940, 2950, 2959.



In addition, Dr. Subramanian combines Palmer's amplifier with other prior art references.

Each Palmer amplifier, however, has a single-ended output (one line coming out, shown in red) and, thus, each amplifier outputs a *single-ended* signal, not a *differential* signal as required by the claims.

Dr. Subramanian admits this as well.

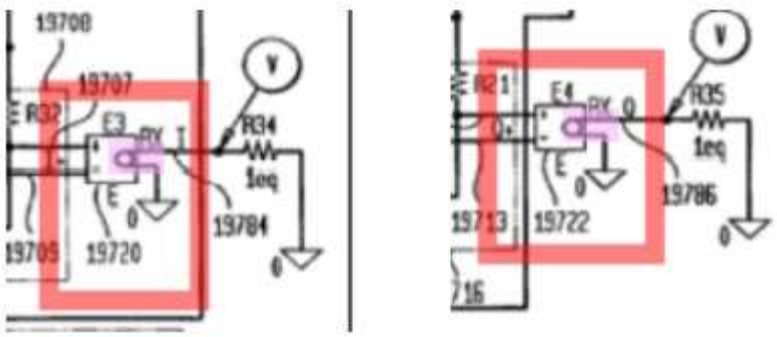
> Q Palmer's amplifiers do not output a differential signal. Correct?
>
> A And by that you mean each of the three amplifiers.
>
> Q Yes.
>
> MR. ZUBLER: Objection. Ambiguous.
>
> A Yes, with respect to each of the three, none of the three output a differential signal.

Ex. 25 at 552:23-553:5. Notably, out of all references that Dr. Subramanian could have chosen for his various combinations, he selected Palmer which expressly teaches away from a *differential* signal. Thus, Dr. Subramanian's own combinations using Palmer demonstrates that it would not be obvious to have a differential amplifier that outputs a *differential* signal.

For the foregoing reasons, partial summary judgment should be granted that claims 5 and 9 of the '528 patent as well as claims 1 and 27 of the '736 patent are valid over Tayloe alone, Tayloe in view of Palmer, or any other prior art reference in view of Palmer.

E. Written description for claims requiring "differential output"

Recognizing the missing claim element of Tayloe and Palmer, Intel seeks to invalidate the asserted claims of the '528 and '736 patents for lack of written description. In particular, Intel asserts that the patent specification does not disclose a differential amplifier with a differential output. *See, e.g.*, Ex. 22 at ¶ 546. He is wrong. Dr. Subramanian points to figure 197 of the '736 and '528 patents as not disclosing these elements – but ignores the express disclosure of a differential output in the patents.



For example, Dr. Subramanian ignores Figure 201 (above) of the '736 and '528 patents, which discloses "differential amplifier" 19720, 19722 (red), each having differential outputs (two lines coming out, shown in pink). Ex. 5 at ¶ 662 (citing Ex. 26, '736 patent at 177:66-67).

For the foregoing reasons, partial summary judgment should be granted that claims 5 and 9 of the '528 patent as well as claims 1 and 27 of the '736 patent are not invalid for failing to comply with the written description requirement.

V. Motion for partial summary judgment regarding infringement

Claims 6 and 16 of the '725 patent; claims 1 and 27 of the '736 patent; and claims 5 and 17 of the '673 patent recite a "storage" element/module/device (capacitors) charging and discharging energy. Intel's expert, Dr. Subramanian, ran a simulation of the Accused Intel Product (to show how it operates) [redacted]

[redacted]

[redacted]

For the foregoing reasons, partial summary judgment is warranted that the Accused Products meet the charging and discharging claim elements of claims 6 and 16 of the '725 patent; claims 1 and 27 of the '736 patent; and claims 5 and 17 of the '673 patent.

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Respectfully submitted,

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